The New Moody

Moody Gardens' Discovery Pyramid sports new exhibits

Photo by Rita Karl

The Discovery Museum at Moody Gardens on Galveston Island is completing a major, six-month renovation with help from a team of JSC advisers.

JSC volunteers, who played a major role in design and execution of the initial human space flight display, also are helping train Moody Gardens staff members so the museum can better explain NASA's space flight program to its visitors.

"The educational partnership between JSC and Moody Gardens (which hosts more than a million visitors a year) has allowed for the development and design of many new exhibits in the museum due in large part to the efforts of a wonderful team at JSC," said Rita Karl, Discovery Pyramid manager.

This is Phase II of the on-going project. The first phase opened last year after extensive participation by JSC employees. As many as 200 JSC workers were involved at times in development of the complex, designed to entertain and to show what NASA and JSC do and why.

Called "Living in the Stars," the display is on the second floor, the exhibit floor, of the Discovery Pyramid. The pyramid also houses the IMAX Ride Film in three 18-seat motion-based theaters.

The fascinating, wide-ranging exhibits show many facets of U.S. and international space activity. Phase II has updated and improved the exhibits of the first phase, which opened in June 1997.

Work on the project began in mid-1966. The Moody Foundation suggested to JSC Director George Abbey that the two cooperate in a Moody Gardens expansion project. About 50 JSC workers from nearly every center organization formed five teams to develop ideas for the project. The best elements of each of their proposals were the basis for exhibits in the 6,000-square-foot area.

The Exhibits

As visitors walk up the stairs to the second floor, they encounter a space suit with a manned maneuvering unit suspended from the glass ceiling. When guests approach the entrance, which is modeled after the shuttle airlock, they are greeted by an astronaut video with narration in English and three other languages.

A right turn takes visitors to an area illustrating some of the scientific principles of space flight. Visitors learn about Kepler and his Law of Planetary Motion, Galileo and his Law of Falling Bodies, Newton and his Laws of Motion, Einstein's Theory of Relativity and Hubble's discovery of the Red Shift. Hands-on activities demonstrate these principles.

Illustrations show guests how astronauts live in space. The International Space Station and Pathfinder's trip to Mars are shown before visitors reach a crew training area.

There, a docking trainer exhibit allows some visitors to practice docking the shuttle with the Russian Mir Space Station using the same software that astronauts use in their training. The software was donated by JSC. The rest of the group is able to watch the simulation on a large-screen television.

The same area houses other computer training programs similar to those used by the astronauts. The programs have been modified by the Mission Operations Training Division to allow guests to learn about crew escape systems, space suits (American and Russian) and the Mir space station. They also provide a virtual tour of the shuttle flight deck, Earth observation images from space, a shuttle landing video and a performance by the astronaut band Max-Q.

Hubble Images

A Hubble Space Telescope kiosk allows visitors to peruse Internet sites pertaining to Hubble and its fascinating images of our universe and solar system. Nearby, a simulator allows visitors to build and explore their own space station.

The United Space Alliance-sponsored exhibit, "Mission Control Galveston," shows shuttle orbit tracking, live NASA Television, and three interactive computer programs on shuttle history, shuttle missions and virtual tours of JSC and Kennedy Space Center.

The International Space Station Habitation Module is a full-sized, walk-through mock-up of the module with floor and ceiling graphics, porthole, hatches, toilet, shower, recycling display, plant growth chamber and a galley.

Shannon Lucid's "What's Cooking in Space" video also is part of the habitation module. A mock-up bioreactor for growing cell tissues in space and a virtual tour of the ISS modules also are located in this exhibit.

The new "Discovery Science Theater" runs the film "Towards Mars."

The X-38 model, by the same JSC team building and testing the real thing, is a two-thirds scale mock-up that allows two visitors to sit inside, check out the actual X-38 switch panels and view a video of the X-38 re-entry.

Launch, Re-entry

The "Space Shuttle Theater" shows a 20-minute film (created in conjunction with JSC) of the launch and re-entry of the shuttle from inside the cockpit, various space walking activities and the assembly of the space station. This theater also is connected to live NASA Television and broadcasts each mission and special events live.

"To The Planets" is a theater that allows visitors to choose any of several films of the digital flyovers of Venus, Mars, Miranda or the Apollo Program's Lunar Rover on the Moon.

The "Mars Surface Operations Exhibit" allows guests to teleoperate a rover across the surface of Mars (complete with simulated Mars soil) and remotely sense different rocks.

The museum displays two of the simulated Mars surface tiles created by JSC for use in KC-135 Mars excursion suit experiments. Coming soon will be a simulated drill that will allow visitors to pull a core sample from the simulated Martian surface.

The JSC Graphics Department and Public Affairs Office contributed to designs enhancing each of the museum areas, including the astronomy area that features a Moon rock sample and a sample of a meteorite.

Looking Ahead

The "NASA Future in Space" display features a short film about NASA's future missions and two computer kiosks with Internet connections. There, guests can learn more about living in space, space travel, and benefits of space research.

Wayne Ordway, a systems integration manager in the Space Shuttle Program Office, said shortly before the opening of the first phase last year that the project was "an example of outstanding community collaboration and teamwork. Everyone involved at JSC has felt a sense of ownership…. It was really a just a group of talented people committing their time and effort in a very motivated way."

Those words are as true as Phase II opens as they were then. They will be just as true when Phase III, now in the planning stage, welcomes its first visitor.

Doug Ming, a space scientist from the Earth Sciences and Solar System Exploration Branch, is the team lead for Phase III. One goal is to design a Mars outpost with surface system operations and a habitat. Its exhibits will include telemedicine and "Living off the Land." It will show some of the plants that Mars explorers could grow.

"We will have a simulated Mars surface with robots controlled by the people in the habitat," Ming said. The exhibit also will show science that will be conducted on Mars including looking for signs of life, and how water could be extracted from the planet's surface.

Other plans include new interactive exhibits by Access Multimedia. They include: The human research facility on the International Space Station, a scale showing what visitors would weigh on other planets, a model of the magnetic-plasma rocket engine being studied for potential interplanetary trips, and space station and Mission Control simulations for school groups.

The museum activities compliment those of Space Center Houston, JSC's official visitor center. Both are major tourist attractions. JSC officials say both help tell the story of human space flight, a story that cannot be told too widely or too often. ❑

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